

TOSHIBA HALL SENSOR GaAs ION IMPLANTED PLANAR TYPE

## THS122

HIGH STABILITY MOTOR CONTROL. DIGITAL TACHOMETER.

CRANK SHAFT POSITION SENSOR.

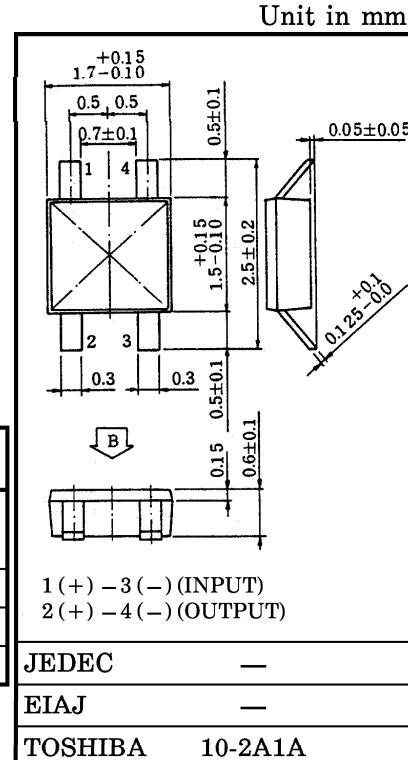
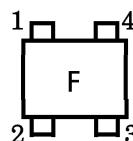
- Super Small Package.
- Excellent Temperature Characteristics.
- Wide Operating Temperature Range. (-55~125°C)
- Excellent Output Voltage Linearity.
- High Specific Sensitivity. :  $K^* = 38 \times 10^{-2} / T$  (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Control Current	DC	IC	10**	mA
1s			15**	
Power Dissipation		PD	100**	mW
Operating Temperature Range		T <sub>opr</sub>	-55~125	°C
Storage Temperature Range		T <sub>stg</sub>	-55~150	°C

\*\* Mounted on a printed circuit board.

Marking



Weight : 0.0047g

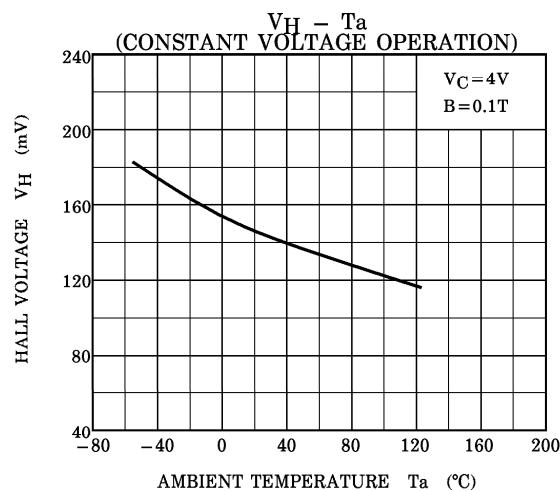
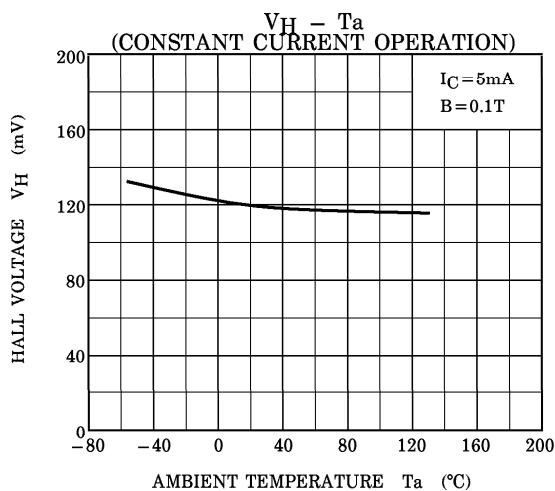
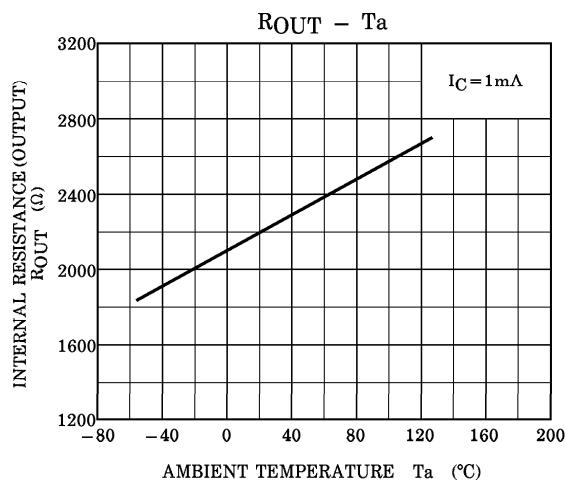
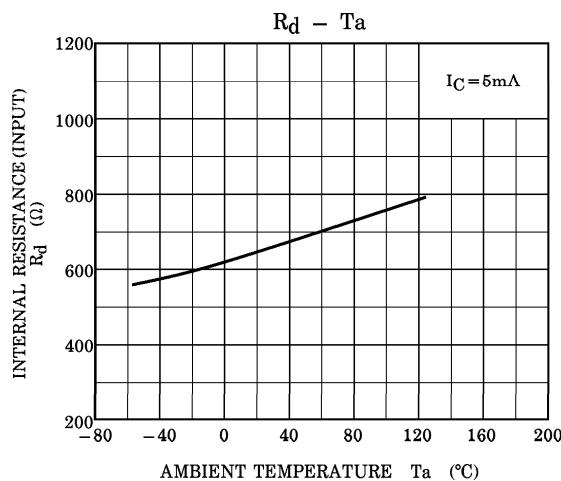
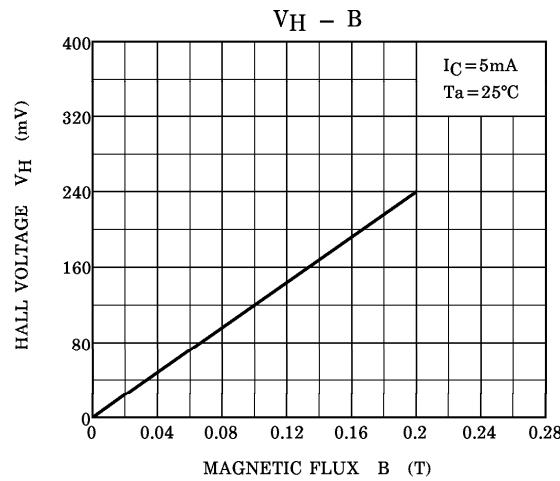
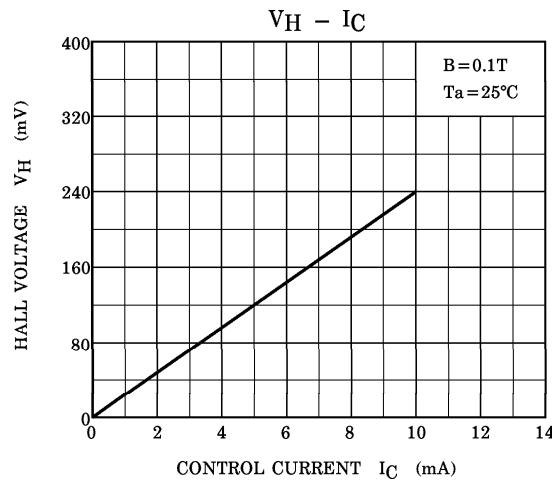
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Internal Resistance (Input)	R <sub>d</sub>	I <sub>C</sub> =5mA	450	—	900	Ω
Residual Voltage Ratio	V <sub>HO</sub> / V <sub>H</sub>	I <sub>C</sub> =5mA, B=0 / B=0.1T	—	—	±10	%
Hall Voltage (Note 1)	V <sub>H</sub>	I <sub>C</sub> =5mA, B=0.1T	80	—	190	mV
Temperature Coefficient (Note 2)	V <sub>HT</sub>	I <sub>C</sub> =5mA, B=0.1T T <sub>1</sub> =25°C, T <sub>2</sub> =125°C	—	—	-0.06	% / °C
Linearity (Note 3)	ΔK <sub>H</sub>	I <sub>C</sub> =5mA, B <sub>1</sub> =0.05T, B <sub>2</sub> =0.1T	—	—	2	%
Specific Sensitivity (Note 4)	K <sup>*</sup>	I <sub>C</sub> =5mA, B=0.1T	—	38	—	×10 <sup>-2</sup> / T
Internal Resistance (Output)	R <sub>OUT</sub>	I <sub>C</sub> =1mA	—	—	3200	Ω

Note 1 : V<sub>H</sub>=V<sub>HM</sub>-V<sub>HO</sub> (V<sub>HM</sub> is meter indication)Note 2 : V<sub>HT</sub>=  $\frac{1}{V_{H(T1)}} \cdot \frac{V_{H(T2)} - V_{H(T1)}}{T_2 - T_1} \times 100$  (% / °C) V<sub>HO</sub> : Residual VoltageNote 3 : ΔK<sub>H</sub>=  $\frac{K_H(B_2) - K_H(B_1)}{1/2 \{ K_H(B_1) + K_H(B_2) \}} \times 100$  (%), K<sub>H</sub>=  $\frac{V_H}{I_C \cdot B}$  K<sub>H</sub> : Product SensitivityNote 4 : K<sup>\*</sup>=V<sub>H</sub> / (R<sub>d</sub> × I<sub>C</sub> × B)=K<sub>H</sub> / R<sub>d</sub>

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